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Silver King Consolidated Mining Company, a Corporation v. W.D. Sutton, A.E. Mills, Samuel J. Mills, Olive I.Mills, Elizabeth R. Sullivan, Andrew Peterson, Victor Peterson, Maude E. Peterson, Andrew Voight, George J. Stahle, and State of Utah, et al : Reply Brief

Utah Supreme Court

IN THE

Supreme Court of the State of Utah

SILVER KING CONSOLIDATED MINING COMPANY,
A Corporation,

Plaintiff and Respondent

vs.

W. D. SUTTON, A. E. MILLS, SAMUEL J. MILLS, OLIVE I. MILLS, ELIZABETH R. SULLIVAN, ANDREW PETERSON, VICTOR PETERSON, MAUDE E. PETERSON, ANDREW VOIGHT, GEORGE J. STAHLE, and STATE OF UTAH, et al.,

Defendants and Appellants

APPELLANTS' REPLY BRIEF

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APPELLANTS' REPLY BRIEF

It would serve no useful purpose for appellants to attempt to follow through the voluminous brief of respondent and discuss the minor differences as to the evidence in this case. There is certain fundamental

evidence and conditions and principles upon which the case must rest and it is to these matters that we shall go directly and shall principally devote this brief.

The question presented for determination is whether the Court upon the evidence here adduced can say with the degree of certainty required in this class of cases that respondent has sustained the burden of clearly establishing that this tunnel water is "developed water", i. e., that it, or any definite portion of such water, has been shown to be from a source independent of and entirely apart from the whole watershed here involved.

Two or three of their experts gave an opinion that this tunnel water was bound up in the "bowels of the earth" and released by this tunnel. They were asked where it came from and testified that they didn't know. This is the same futility that has been attempted in every case of this character.

The Court knows that water does not spring up from the "bowels of the earth"; that it flows out only if it has a source above the point of flow. It doesn't flow upward from any source. The tunnel water and the spring water flowing from underneath this watershed have a head above the point of flow. This must be true.

That our mountain ranges do serve to absorb and hold back in "openings, fissures and crevices" and in a manner of storage, the waters that are precipitated upon them and that such waters continue to seep through the formations and thus become available throughout the year, is also common knowledge. That these ranges, which we refer to as watersheds, become saturated during the winter or spring so that flush waters are not always all absorbed and run off in some quantities over the surface is also well known. That after the flood season the absorbed waters are drawn upon and lowered in the mountains until the next snows begin to melt and the waters therefrom replace these supplies for the next season, is likewise common knowledge.

There is no use trying to fool anybody as to these fundamental conditions.

Respondent's experts may not know that the waters that flow out of the tunnel at an altitude below and underneath this watershed come from the precipitation upon it and that such waters, except for the underground free passage afforded them by this tunnel, would be held in check to supply the water users, but this Court does know and has so stated its knowledge a number of times.

In Mountain Lake Min. Co. vs. Midway Irr. Co., 47 Utah 346, at 367, the Court, speaking by Justice Frick, says:

> *"It is a matter of common knowledge that in this mountainous region the water which percolates into and through the porous soil of the mountains, especially in the higher altitudes, at some time and in some manner finds its way into the mountain streams.* Merely to drive a tunnel into a mountain therefore, into which and from which a considerable quantity of water flows, is not even persuasive evidence that the water thus flowing from such a tunnel is what is termed developed water, within the perview of the law. *In order to authorize a finding that the water encountered in such a tunnel is actually developed water, the proof, in my judgment, should be reasonably strong and clear.*

This tunnel was driven directly underneath this watershed in the vicinity of the large Thiriot or Hauet-er Spring and near the Sullivan Spring, the two main outlets of the water from the watershed and the two main sources of supply of water to the water users. There is no substantial dispute as to the topography as explained in our first brief (page 4), nor to the dip of the underlying formations (App. bf. 5), which tip upward toward the Southeast and in the general course and direction of the surface elevation; except that after passing beyond the immediate slope of the mountain above the springs and above the portal of the tunnel

the dip of the formations is steeper than the surface so that the upper edges of these strata come up under the surface watershed in the area shown in the topographical maps of the U. S. Geological Survey, exhibits 65 and 71. This flatter area is in part known as Bonanza Flat and is so indicated on the maps. It is just northwardly and below the summit of these mountains, the Southern slope of which is toward the Big Cottonwood Canyon. Of course, as previously stated, on the Eastward slope of the mountain into which the tunnel is driven the Woodside shale outcrops by reason of rising up in this direction also, as explained in our original brief. This matter will be referred to hereinafter.

SURFACE AREA DRAINED

An important question is therefore, as to what surface area was affected by the tunnel. In other words, considering the amount of precipitation, how much of this watershed is drained by the tunnel and by the springs as they now exist, and by the springs as they formerly flowed. A great deal of respondent's criticism of our brief is based upon the complaint that we do not confine our contention to what they call Thaynes Canyon watershed in the brief. Of course we do not and never did claim that more than a small portion of this water was collected in the slope of Thaynes Can-

yon alone. There are no such limits placed upon us by the law. As stated in the opinion of Justice McCarty in Mountain Lake Min. Co. vs. Midway Irr. Co., supra:

> "It is, therefore, unimportant whether the source of this underground flow is within the drainage area of Snake Creek or whether its source is west of and beyond the crest of the mountain that divides the watershed of Snake Creek from the water shed of other streams located in that particular range of mountains."

Respondent in its argument sets up a straw man in the nature of a claim that Dr. Schneider had made some claim in his testimony that the waters of the tunnel came solely from the limited watershed or slope immediately into Thaynes Canyon. No such contention will be found in Dr. Schneider's testimony. In fact, the exact contrary will be found. However, based upon its straw man, respondent introduced the argument of Mr. Ullrich, one of its experts, and had him figure out how much water would be collected from precipitation upon this limited area, which it created for this purpose. The effect of this trick upon the trial court will be seen when we refer to the opinion of the trial court later on. This area is roughly located on exhibit 65 (the topographical map) by the meandering lead pencil line drawn around the upper reaches of respondent's tunnel as indicated in the upper left hand corner of this exhibit.

Mr. Ullrich testified, as led by respondent's counsel, (Tr. 4037-40) that this limited area, referred to as a "catchment basin", contained 12,641,280 sq. feet; and making allowances for the run-off, the precipitation upon this area amounted in total to .69 second feet, and he therefore argued that this area could not have supplied the 5.5 second feet that flowed out of respondent's tunnel, thus proving that the tunnel collected water from a much larger area.

He also answered questions based upon a larger area shown upon exhibit 86; an area arbitrarily selected by respondent's witness Heitsman (Tr. 3992), and testified that this area so created and embracing 35,895,-680 square feet would collect precipitation only sufficient to supply a flow of 1.97 second feet, and argued that the tunnel flow could not therefore come from this area.

Of course it is utterly impossible to see why a portion of the flow could not come from this area. True, if all the water from this area flowed through the tunnel it would be only a little more than a third of the flow; likewise it would only be a little more than a third of the flow from the Sullivan Spring alone prior to the tunnel. But this contention, instead of proving anything so far as respondent is concerned, is very important proof of appellants' contention here. Take the

larger area of 35, 895,680 sq. feet and for convenient figuring assume that to supply the tunnel an area three times this great would be necessary if all the precipitation were collected in the tunnel. This would be an area of 107,687.040 sq. feet. As there are 43,560 sq. feet in one acre, this, divided into the total square feet necessary, makes an area of 2,470 acres. Since the flow of the tunnel after it had settled down at the time of the trial was less than half of all the water that Respondent claims flowed out under this watershed, the area of the watershed affected must have been more than twice 2,470 acres. In other words, about 5,000 acres or about eight sections of ground. Since(as we shall show hereafter from the State Engineer's readings, taken priror to the commencement of this tunnel, the flow from the springs alone was substantially the same as the flow from the springs and the tunnel after the tunnel was driven, it will likewise appear that at least a watershed of this size was required to collect the precipitation necessary to supply the water that flowed from under this watershed. In fact, considering the run-off, it may safely be assumed that the area required was even larger than this. Thus is also indicated the distances that water passed through the formations encountered.

By reference to exhibit 47, which shows the lower reaches of the watershed, and the topographical maps, exhibits 65 and 71 showing the upper, it will be realily

seen that the area drained runs back to and embraces the Bonanza Flat and the country running across to the Clayton Peak Fault, including all this Jupiter Hill area of broken and shattered formations testified to by Dr. Schneider. (Tr. 2807-11).

As explained in our former brief and in the argument, this watershed is set off by moutains to the West, which mountains, as seen by exhibit 47, extend across and down practically to Spring Canyon Creek on the left side of that exhibit. The watershed itself, in other words, is well defined and its area substantially determined, and the precipitation thereon and over the whole is consistent with the water outflow.

In considering the area affected it is important to keep in mind that the actual flow of the tunnel at the time of the trial, as testified to by respondent's witness Blye, was 5.25 second feet. (See last reading on table end of Res. Bf.) (Tr. 61 & 643). And that in February, 1921, the total flow reached a maximum of 12.90 second feet and gradually drained down from that date until the trial. This conclusively shows that a vast amount of water was held in the watershed above the tunnel prior to the free drainage afforded by the tunnel, and found its way through the openings, fissures, crevices and seams into this tunnel as it progressed. This must be accepted as true because the water would

not flow out except it had a head above the level of the tunnel. It follows indisputably that the waters so held above the level of the tunnel were in underground storage and supported the supply of water precipitated upon and finding its way out of this watershed.

Witness Ullrich computed the water that had been collected into and had flowed out of the tunnel from February, 1921, to March, 1928, at 15,300,000,000 gallons. (Tr. 691)

That waters were held up in these formations so as to cause the additional waters falling upon the watershed to pass over and through the area above the watershed is shown also by the fact that as the tunnel progressed and caused the water to flow downward from these formations, thereby giving free drainage at greater depth, portions that had previously admitted water into the tunnel dried up and the waters previously flowing from them flowed from the newly intercepted openings. This is also conclusive evidence of free passage of water through these formations.

The respondent's witness, Mr. Blye, on this point (Tr. 60) said:

> "I mean as the tunnel heading was advanced, we would cut a wet portion of the tunnel, we would then proceed beyond that point and would develop another wet portion of the

> tunnel in the face at the same time that this new flow of water was developed, the flow behind would dry up, evidently the whole formation, or the whole formation between these points, was permeable to water; it sought the easiest outlet, and changed its course and came out at one point, drying it up at the previous point."

Drifting from the tunnel also caused transfer from the tunnel to the drifts. (Tr. 3563).

That these waters were sustained, therefore, in this watershed above the tunnel,—which at the time of the trial extended beyond the workings shown on the maps, as the maps only purport to show the workings within the respondent's ground, and approached the neighborhood of the divide between the Park City and the Cottonwood side itself,—must be taken as conclusive. It is idle to try to argue the possibility that these waters might have come from some other watershed, when there is no sufficient watershed at a sufficient elevation to sustain these waters; when the Bonanza Flat and the adjacent territory is over the Weber Quartzite, that the Weber Quartzite is admittedly fractured and broken and these flats furnish a storage for snow, and especially when it is shown that the Woodside Shale and the Park City formation and also the Weber Quartzite at their upper edges are under the loose material in this territory according to their dip, and that these unquestionably held water in great quantities and that the

outflow was in the same direction and location as the springs affected. There is no escape from the proposition that this water came from this watershed. In fact, it is very significant that no witness on the part of respondend ever attempted to testify that these waters came from any other watershed. Their answers were that they did not know where the waters came from. This was the anly answer they could make without being driven to the point of denying the law of gravity.

(Of course, so far as the rights of appellants are concerned, as already quoted from the opinion of Justice McCarthy, it would make no difference whether the waters in the tunnel and arising from these springs came from this watershed or not.)

It is attempted to be argued that the waters previously arising in the springs and streams underneath this watershed did not come from the same source, but, as stated by Judge Johnson in the Snake Creek Case, they are met with the indubitable fact that waters did come up in these springs in quantities commensurable with the precipitation on this watershed prior to the drilling of this tunnel, and also that the total flow of water from the watershed has not been substantially or in any definite quantity increased by this tunnel flow from beneath the watershed.

RESPONDENT'S CONTENTIONS

Respondent tries to overcome these fundamental conditions and these matters of common knowledge by two contentions upon which in final analysis they rest their case:

1. That water was not sustained in these formations prior to the drilling of this tunnel and did not pass through these formations either before or since the driving of the tunnel, and therefore the water running out of the tunnel came from the "bowels of the earth", and not from the watershed over the tunnel.

2. That they have shown that the flow of water from the springs and the tunnel has been increased by substantially the tunnel flow, or in other words, that the other sources of flow from beneath this watershed have not been diminished.

These propositions are based upon speculative opinion as to the first and upon alleged measurements as to some of the springs for the second.

I.

The first of these propositions is conclusively disproved by respondent's own testimony. We discussed this question somewhat in our first brief commencing at page 16. Since that time respondent has filed its brief

containing a long table attached to the fly leaf at the back, which purports to show and which does show with sufficient accuracy for discussion of these readings, its testimony as to the various flows from the tunnel commencing when the tunnel was in about 2840 feet as there shown in the year 1917 and continuing down until 1923 when actual measurements ceased and then going on from 1925 to 1928, except for certain lapses, with what is termed the Gurley measurements, being a turning device which made a chart record which was read from time to time. These last measurements, by the way, are the same kind of measurements that were rejected by Judge Johnson in the Snake Creek Tunnel Case as not being acacurate. However, this does not affect the point under discussion.

We direct the court's attention to respondent's table of readings on the tunnel, which shows conclusively that these formations and all of them did sustain water above the tunnel in this watershed and which flowed through these formations into the tunnel as each of these formations were passed into and through. The table, as stated, does not show the readings prior to a distance of 2840 feet, or until the tunnel was in more than a half-mile.

We point out that it shows a reading of 1.04 second feet June 9, 1917, in the Thaynes and Woodside forma-

tion. The Woodside Shale, the respondent attempts to contend was free from the passage of water except, as they contend, some drips in the middle portion thereof and a flow of water encountered at point "B", about 4394 feet. We direct the court's attention to wording on their chart that the last portion of the Woodside Shale and the first portion of the Park City formation were "dry and dusty," and the Park City formation is marked "dry" beyond this place up to the layer of black shale therein.

We now direct attention to their table for the year 1918. On May 31st, 2.51 second feet flowed out of the tunnel while it was in the Woodside Shale. It will be said, and probably correctly, that this is a high water reading. The readings just prior and the next reading after would so indicate; and it will be said that a substantial portion of this water flowed from point "A", 2765 feet, and at the contact of the Thaynes with the Woodside. No reading was taken at that point at this time so nothing definite can be said as to what portion flowed into the tunnel flow at that point.

We remark at this point that conceding that there was a flow at point "A" when the tunnel had reached that point, no one can accurately say what that flow would have continued to be there if the tunnel had stopped there, so that the water that was held up in

this watershed would have been sustained so that some of the waters further back would have passed over this point instead of being released into the tunnel at greater depth. However, it will be noticed that the next comparable reading at point "A" was taken June 13th, 1920, and was .36 second feet. The precipitation in 1918 was 16.56 inches of rainfall, including the last three months of 1917, and in 1920 was 15.58, (exhibit 82) so that if .36 second feet or even .51 second feet are deducted from the reading of May 31, 1918, there was still 2 second feet of water coming from the Woodside shale on that date.

It is interesting to note that by June 30th the total flow had dropped down to 2.13 but on July 8th, 1918, it was 2.30, showing an increase of .17 second feet while in the Woodside Shale marked "dry and dusty." And while still in this portion of the Woodside and Park City so marked "dry", on Dec. 1st 2.42 second feet were flowing, showing an additional increase while in this portion of the tunnel and an increase from October 1st to December 1st of .72 second feet in the portion of the tunnel marked "dry and dusty."

Two points must be conceded with relation to this tunnel flow. The first is, that as the tunnel progressed the flow of water tended to follow the face of the tunnel and the flow out toward the surface became less.

The second is, that whenever the tunnel progressed slowly or its progress ceased the flow diminished, showing that the head of water above the tunnel was being drained down. The first of these also shows that the flow of water into the tunnel could be transferred with the progress of the tunnel, thus also clearly indicating that the watershed above the tunnel was so broken up so as to permit this transference.

Before we leave the reading of Dec. 1st, 1918, of 2.42, we point out that from October 1st, 1917, to Dec. 1st, 1918, this tunnel had progressed 4834 feet, all in the Woodside and alleged dry portions of the Park City. That during this time the water flow had increased from .14 on Oct. 1st, 1917, to 2.42 Dec. 1st, 1918, an increase of 2.28 second feet, all of which water was encountered in these formations as all respondent's readings at point "A", 2765 feet, show no flow after passing this point, in October or December at this point. If the tunnel had stopped at this point undoubtedly a flow of water would have continued out of the tunnel and with the watershed sustained further back it may have been a substantial flow. True, this flow was largely transferred with the further progress of the tunnel, but the fact cannot be overcome that 2.28 second feet of water flowed out of 4834 feet of these alleged impervious formations.

By glancing along to the year 1924 at the top of this table it will be noted that the main tunnel reached the limit of respondent's ground at 15,444 feet. Of course there were numerous cross-cuts afterwards, as the maps show, and also further progress in other ground. And almost half or 2.00 second feet at time of trial flowed out of other ground. (Tr. 61) March 3, 1928, according to the last reading on Respondent's table, there was 5.25 second feet flowing from the tunnel including all the cross-cuts and the distances beyond the 15,444 feet of main tunnel in respondent's ground; so that they have a total flow in a distance of the main tunnel and workings, of between fifteen and twenty thousand feet, of 5.25 second feet; and if this were averaged over the tunnel as waters were encountered in its progress and there had been no transference with the progress of the face of the tunnel, it would amount to about one second foot for each 3,000 feet of the tunnel. In other words, the flow of 2.28 second feet from these alleged impervious shales in a distance of 4,834 feet, is greatly in excess of the total flow at the time of the trial averaged over all the formations including the Weber Quartzite, which was admittedly broken and water bearing.

Before leaving this portion of the tunnel we point out that it was testified without dispute that a very substantial portion of the Woodside shale was so wet

that it was necessary to timber and also place a metal roofing to protect the workmen. (Tr. 3554; 3562, also 1957-59, 2879. That the workmen throughout these alleged impervious shales were compelled to wear slickers and rubber boots and helmets to protect themselves from the water. (Tr. 3612) Respondent gets itself into difficulty by persisting that Mr. Blye and Mr. Heitsman testified that these portions of the Woodside and Park City, and particularly the Woodside, were dry and dusty when encountered. Every bit of testimony by other witnesses who worked in there is that this was not true; and we now say again that Mr. Blye and Mr. Heitsman were, by their own testimony, not present at this mine at all at times that claim is made based upon their testimony and we cite the court to the transcript in order to try to finally settle this contention. (Tr. 29 & 34) (Tr. 257 & 1070). In fact Mr. Heitsman was not there while the tunnel passed through any of these alleged impervious formations.

We next direct the court's attention to the tunnel reading of May 14, 1920, of 5.44 second feet, just before the tunnel passed out of the Park City formation. All this water, which was more than the total flow from the whole tunnel at the time of the trial, was encountered before the Weber Quartzite was encounterd.

Coming back to April 26th, 1920, for fear that the

contention will be raised that the May reading was a high water reading although the later readings would indicate the contrary, and although they claim the tunnel flow was not affected by high water, we have a reading of 3.82 second feet, showing an increase of flow from April, 1919 of 1.95 second feet to April, 1920, of 3.82 or 1.87 second feet, all in the Park City formation.

We will not attempt here to cover the testimony again of Dr. Schneider and the other facts and testimony cited in our main brief (p. 16) disproving respondent's contention that these formations were not water bearing, but taking these together with the figures just given it is beyond our comprehension how respondent will still contend that these facts and figures, including their own figures, do not show conclusively that this tunnel admitted a flow of water sufficient to drain the whole watershed above and in the broad vicinity of this portion of the tunnel. This is its main contention and no amount of theorizing by experts can change these facts and conditions.

Since Dr. Schneider's testimony is based upon facts and affects all of the preceding questions that we have discussed, and since, we believe, respondent has attempted to convey an entirely erroneous impression of his testimony, and since his testimony is not long, we are

not going to attempt to set out at length this testimony here but content ourselves with citing the court directly to the testimony at the pages containing his testimony and ask that the testimony be read as the best means of determining its basis, scope and value. Most of the facts testified to by him were not contradicted by any witnesses. (See transcript pages 2789-2827, 2869-2928, 3034-3102, 3304-3385, 3493-3551.)

The conditions throughout these alleged impervious formations are substantially the same and the testimony of the workmen as to water being encountered throughout these formations is substantially borne out by Respondents' own figures.

There is no point to respondent attempting to pick out one point or one little distance in these formations and say that it was dry, or one place at which Mr. Heitsman claims to have discovered iron ore which would have oxidized if water had previously reached that point and at which he claims it was not oxidized, and therefore contends that surface water had not prior to the tunnel reached this point. It is unnecessary for us to make any such contention. Furthermore, there is no contention that water penetrated every part and every portion of every piece of formation underlying this water shed. That is foolish. We do contend, as stated by this court in the Mountain Lake Case, that

water naturally would and did find its way into and fill up the "openings, fissures, crevices and seams" below the surface of this watershed and that when this tunnel gave free drainage underneath that the waters flowed downwardly into the tunnel; waters in such quantities as to leave no doubt that they worked their way in from a great area. In going down they naturally found the courses of least resistance and would not then or at any time penetrate every portion of the underlying formation, or necessarily flow vertically downward.

When the tunnel had gone to sufficient depth so as to be under the winter storage of snows and those snows melted, the waters naturally over a vast area found their way downward into the innermost portions of the tunnel. If there had been no deeper access, of course, the waters would have flowed in at shallower places in the tunnel, where encountered. If the water in these crevices and openings and seams and fissures had been sustained from underneath, the water naturally in substantial quantities would have percolated down through or under the deep morain or loose material until it found its way in accustomed way to these springs. The whole process is so natural and as to the interception is so clearly shown by the flows into this tunnel that we cannot see how this case can be said to differ from the other cases that we have had of this character

except that here the watershed affected and the processes are much more obvious.

Some point is made in connection with this claim of impervious formations to an alleged lack of variation in the tunnel flow. We have discussed this matter quite fully in our previous brief commencing on page 20, and by using respondent's exhibits there referred to, and following through it will be seen that this contention of lack of variation is disproved by respondents record.

II.

This brings us to respondent's contention that the total flow from this watershed was increased by its tunnel.

In appellants' main brief, pages 33 to 65, we classify the springs in this area and discuss the readings on the principal sources of supply. We also point out the reasons why the readings on the smaller springs can lead to no conclusions and why these springs, which flowed only small fractional parts of a second foot, can have no great value upon the general question of the general supply of water. The ones that were above the level of the tunnel and which were totally dried up will be referred to again.

We pointed out that the smaller springs which were below the level of this tunnel would not be expected to be dried up, and stated that the waters "below the level of the tunnel", i. e. waters that were held in abeyance above the level of the sources of these springs and below the level of the tunnel, would not be affected by the tunnel simply because the waters would not flow upward into the tunnel.

Respondent attempts to make it appear that we are asserting that any springs having a level below the tunnel would not be affected at all. We did not so assert. We said that *waters* below the level of the tunnel would not be affected and this statement we think is clear.

We shall discuss again with reference to the transcript the particular springs that dried up, being those higher than the level of the tunnel and arising in the Woodside Shale, but shall take up first the question of the total flow from the springs previously and from the tunnel and springs after the tunnel. This is of vital importance here just as it was a determining factor in Mountain Lake Min. Co. vs. Midway Irr. Co., 47 Utah 346, where Justice McCarthy said (361):

> "The controlling, the decisive question in this case is: Did respondent, by driving the tunnel and collecting water therein, increase the flow of water in Snake Creek; * * *"

(366):

"We have carefully examined the record and have been unable to find any substantial evidence tending to show that there has been an appreciable, or any, increase in the flow of water in Snake Creek since the year 1900, but we find an abundance of evidence of the most conclusive character showing that there has been no increase in the stream."

And at page 368 Justice Frick, concurring in the opinion, says:

"*In order to authorize a finding that the water encountered in such a tunnel is actually developed water, the proof, in my judgment, should be reasonably strong and clear. The proof in this case is not of that character.* The only conclusion I am able to arrive at, therefore, is that the evidence does not sustain the finding that the respondents developed all the water, except the three second feet which they allowed to appellants, but in my judgment the amount that the respondents have developed, as well as whether it is permanent or not, is left in serious doubt. * * * "

"*I do this with less hesitancy, because in doing so I am less likely to inflict injury upon any one man than if the judgment were affirmed.* It is possible that the water coming out of the tunnel may temporarily have increased the flow of the stream, *but it is equally possible, even quite probable, that there is no permanent increase of water, and hence, if the watere were given to respondents, it would result in taking what belongs to the appellants.* It is this peculiar feat-

> ure of the case that has caused me to hesitate in this matter, and finally to concur."

The situation that determined this case is present in the case at bar. There is no certainty as to what the flow of the tunnel will be when it finally settles down. It is certain that it has been decreasing in every instance where the tunnel was not being further projected into additional waters that were above its level. This indicates positively that it was still drawing down some head of water continuously.

We do not contend that if this tunnel is continued sufficiently beyond the divide and into the Cottonwood watershed that the tunnel waters will not increase so that more waters will be flowing out on this side. We do contend, however, that respondent's own readings show that the flow out of this watershed through the tunnel and through the springs beneath the watershed was not substantially different in amount at the time of the trial from the flow of the springs alone previously to the running of this tunnel, which brings this case within the Utah case just cited.

TOTAL FLOWS

Respondent, commencing on page 241 of its brief, refers to this method of comparing total flows as a "monumental absurdity." This court did not so consider it but considered it a matter of compelling importance, as just shown. They then enter upon a discussion of some matters relating to uncertainties that might be evolved out of the State Engineer's reports and contend that we are going outside of the record. They may be correct as to some of these readings, but we are not going outside of the record, because these books are introduced into the record. (Tr. 537) for the purpose of showing what these readings were. They were not returned to the State Engineer's office, except temporarily, aand are still a portion of this record, and we insist that they are before this Court as evidence.

However, respondent sets up (pp. 242-3) what it maintains as to the total readings on these two big, Sullivan and Haueter, springs August 8th, 1904, by the State Engineer's office. We thought and still think that some of the flows from these springs may not have been included in these totals. However, they set up (242), 4.73 second feet as the flow on that date from the Thiriot or Haueter Springs. This conforms with a total of the State Engineer at page 9, Book R. K. P. 5, of the State Engineer's records. They also claim that 4.40

second feet was the reading on the Sullivan Springs on the same date. The precipitation, according to respondent's exhibit, for the year 1904, excluding the last three months of that year and including the last three months of 1903 in order to cover the winter snowfall, was 27.64 inches, and we have this result as the total flow of these two springs:

Thiriot Spring	4.73
Sullivan Spring	4.40
Total	9.13 second ft.

This then is the exact figure set out and claimed by respondent as the flow from these springs in Aug. 8 of 1904, after the high water, and following the year 1903 in which the total inches in rainfall was 17.36 (exhibit 52). Respondent certainly must accept these figures. Likewise the readings were taken early in August and the two preceding months had been comparatively dry. (Ex. 52.)

Refer now to the August readings by respondent as shown in its table attached to the last fly leaf of its brief, for the year 1927. On the Thiriot Spring the nearest reading to August 8th is August 4th, 3.62. The only August reading on the Sullivan Springs is August 31, 2.39. The tunnel reading on August 6th, the nearest date to August 8th, is 5.48. The precipitation, taken on the same basis as that referred to in 1904, was 26.74

inches of rainfall (Ex. 52), so that the precipitation is comparable. However, the rainfall in the preceding month of July in 1904 was .29, and in July 1927 was 1.21. The rainfall, however, in August was greater in 1904. There is no information as to whether this rainfall came after or before the reading of August 8th. It is fair to assume that the precipitation is substantially the same. We have then Respondent's claim for 1927 on these three sources the following:

Thiriot Spring	3.62
Sullivan Spring	2.39
Spiro Tunnel	5.48
Total	11.49 second ft.

This would indicate that if all the factors had been considered there is a possibility of a little over two second feet of water that may be considered as developed water, instead of the 5.25 second feet flowing from the tunnel which the trial court decreed to respondent.

But proof of developed water in order to sustain a decree must be reasonably clear and free from doubt. The above shows more conclusively that any other figures in the record that the judgment of the trial court is erroneous.

The next question is as to whether this two second feet of possibly developed water is sufficiently free

from doubt that the court could sustain a judgment as to it. This question we shall discuss in a moment.

By looking at respondent's table at the close of its brief it will be seen that every reading on the springs accepted by it is placed upon this collection. Some readings by the U. S. Geological Survey it would not accept. We will discuss those later.

Now by looking at Respondent's whole table it will be seen that only in one other year were there August readings on the tunnel and these two springs which can be compared at all with the State Engineer's reaings. That was the year 1917. On August 3rd of that year the table shows the following readings:

Thiriot Spring	5.50
Sullivan Springs	3.58
Tunnel	.20
Total	9.28 second ft.

Considering that in the year 1917, excluding the last three months thereof and including the last three months of 1916, the precipitation was 16.83 inches of rainfall (Ex. 52), which was practically 10 inches of rainfall less than 1904 or 1927, it will be readily seen that on this date in 1917, which was within five days of the date of the State Engineer's reading of 1904 and during the same month as the total readings above given of 1927, and making reasonable allowance for the

difference in precipitation, that the flow of these two springs and the tunnel was at that time substantially the same as the flow of the two springs and the tunnel in August, 1927, after the deductions are made which are hereinafter discussed; and are comparable also to the readings of 1904. These three readings tell the story as to the main flows from this watershed.

Now as to the apparent approximate 2.00 second feet difference between the readings of 1904 and 1927 the evidence conclusively shows that there should be definite deductions from this, and that there are also certain elements of uncertainty which render it impossible to conclude that there was any increase of flow from the watershed whatsoever.

ELEMENTS OF UNCERTAINTY

On the elements of uncertainty that enter into the indicated difference of approximately two second feet in 1927, we direct the court's attention first to pages 41 to 50 of our main brief where we discuss the elements of uncertainty that went into the respondent's measurement of the Thiriot Spring. We insist that it is proved beyond any question of doubt that this spring was under the tunnel dump of loose material over which water flowed eastwardly to the company property in open ditch a part of the time and later in a lumber flume

part-way, and that this water seeped through this material and out of it into the spring in such quantities that witnesses could not pass along the edge of the dump above the Haueter Spring without getting wet. (Tr. 192, 215, 224 to 227, 254-5. Also 1619 to 1621 also 3188 also 2139 and 2140, also 254-5). That dump became water-soaked and settled down. (Tr. 3564-65).

Mr. Blye never claimed that he at any time made any allowance in his measurements for these seeps, nor could he do so.

We direct the court's attention to the location of Thiriot Spring on Exhibit 49, the State Engineer's map showing the outflow from this spring and also the spring area. The lead pencil mark northwardy to the main channel of Spring Creek shows the course of the ditch that carried the main flow from the tunnel. This was an open ditch in this loose canyon formation above this Spring area in this proximity to this spring. This water ran in a wooden flume down from the tunnel to a point directly west from the Thiriot Spring area and then in open ditch as indicated by lead pencil. It is admitted that this wooden flume leaked. There is no place that this water could go except into the Thiriot Spring. It likewise seeped under a portion of the dump and was never measured and no contention made that any allowance was taken for it. The only allow-

ance that is claimed or set up in Mr. Blye's notes is an allowance for the flow downward from the Ferry and Whistler Springs through what is termed the Whistler Stream. This stream passed under the road between these and the Haueter Spring and under the flume just referred to and under a portion of the dump and into the Thiriot Spring area. That this dump was over the spring area was not only testified to by respondent's own witnesses, as pointed out in our original brief, and in the citations at the end of the preceding paragraph, but the inside first page of Mr. Blye's notes, contained in Exhibit 53, a loose leaf, black leather book, shows the location of the dump, the location of the spring area and the different streams on which Mr. Blye took his measurements. *It also shows the Whistler Stream and shows the place of measurement before it reaches the highway or the dump. This and other Thiriot Spring measurements could therefore not possibly fail to include waters that seeped in through the dump and from the ditch and flumes surrounding this spring area.* All the tunnel water came out in this way. To contend that this spring was not affected by this tunnel water seeping through the dump and leaking through the flumes and also seeping from these open ditches surrounding this spring area would be an absurdity which we are sure this court would not accept; and considering the amount of these flows, it alone brings into this possible

two second feet of water an element not only of uncertainty but conditions which make it definitely certain that a large portion of this water measured in these streams that flowed out from this spring area was in fact tunnel water.

The plat in Mr. Blye's note book shows that the measurements were not taken at the Spring but on the streams leading therefrom, he so testified also.

Now in order to definitely clear up any question of differences as to allowances for the water that entered this spring above the points of measurement, we call the court's attention to Mr. Blye's black book, Ex. 53, and to the 8th page from the back of the book where these readings of August, 1927, aappear. It will be noticed that his first comment as to this reading, after the date "August 31, 1927" is "rain yesterday", so that these readings were taken following a day on which it rained. On the bottom of the page is the Haueter (Thiriot) Spring reading, 3.54, less Whistler stream, .09=3.45. It thus clearly appears that the only deduction for inflow that was made was for the Whistler Stream and the measurement on this stream is indicated in his notes at the middle of the page. Above this is the Sullivan Spring reading of 2.39, which we have referred to and incorporated in the computation of total flow.

On the other side of this page is the Haueter (Thiriot Spring) reading of 3.62 of August 4th which was contained in our computation above. This is at the middle of the page, and again it will be seen that the only deduction or allowance that is made is a deduction of the Whistler Stream. *We call the court's attention particularly that this reading was taken at the outlet of the ice pond as shown by the notes.* Another note says "concrete channel taken out and new road run across ice pond, new wooden weir put in about 200 feet upstream." This is important because Mr. Blye in reaching his conclusions excluded the readings of the U. S. Geological Survey taken almost at the same point, either just above or just below the ice pond, because he said he thought they were taken too low down. We will locate this ice pond by the U. S. engineer's testimony later. It is near the highway shown on exhibit 49. It thus clearly appears that all the seepage waters from the tunnel were included in the August, 1927, reading of the Thiriot Spring and therefore in the two second feet difference here.

Respondent refers to its extracts from the State Engineer's books and its extracts or tabulations of Mr. Blye's figures. We much prefer that the Court go directly to these books and to Mr. Blye's notes as to any disputed question as to place or manner of taking readings.

Another element of uncertainty which we consider important as entering into the possible two second feet of developed water here, is the fact that it does not appear that this tunnel had at the time of these readings in August, 1927, drained all of the head of water above it. It is true that the tunnel had passed out of respondent's ground at point "H", 15,444 feet in, but after that time it progressed into other ground and numerous cross-cuts were made. The court is not furnished with any record as to what progress was being actually made in 1927. It does appear, however, conclusively that this water had gradually decreased from 12.90 second feet in 1921 to 5.48 second feet August 6th, 1927, and to 5.25 second feet March 3rd, 1928. (See table at end of respondent's brief.) This is precisely the element of uncertainty that controlled the decision in the Mountain Lake Case because no one can say, even assuming that there is a slight difference now in these total flows, that this difference will continue when the tunnel has finally settled down,—assuming, of course, that it does not penetrate into the Cottonwood watershed.

In other words, from August 6th, 1927, to March 3rd, 1928, this total flow decreased, as shown by respondent's table, from 5.48 second feet to 5.25 second feet; a loss during that period of .23 second feet which must be allowed. And this steady decrease also indi-

cates a further uncertainty as to what the actual flow of the tunnel, if not further projected, would be.

A third element of uncertainty which must enter into the approximately two second feet between the total flow of the Thiriot and Sullivan Springs alone in 1904 and the flow of these springs together with the tunnel flow in 1927, with comparable precipitation conditions, is the fact that other springs having an outflow under this watershed were undoubtedly affected; some dried up entirely and some reduced.

As pointed out in our main brief, nothing can be determined with reference to the small Ferry and Whistler Springs for the reason that water was pumped from the portal of the tunnel up to these sources and of course found its ways into the Whistler stream. That does not appear to be denied. There are, however, three places where the reduction is either conclusive or quite apparent. The first of these is the Upper Nelson Spring.

In the original brief, commencing at the bottom of page 59, we discussed this spring and also the Tunnel Spring in the same channel and also at an elevation above the so-called Huff or Nelson Spring upon which respondent claims to have had some measurements.

At the bottom near the center of Exhibit 49 (State

Engineer's map) is indicated Huff Springs. There is then indicated quite a substantial amount of acreage on this map of the State Engineer that was irrigated from these springs. There are two small circles; the upper of these may be the Tunnel Spring.

We pointed out that this upper Nelson and Nelson Tunnel Spring arose in the red shale known as the Woodside, which in rising to the Southeast was exposed on this side of the mountain. The spring was about 600 or 700 feet up the side of the mountain according to the uncontradicted testimony. There is a pipe line indicated at the bottom of the State Engineer's map, Ex. 49, running from this spring to the Glenwood Cemetery. It is undisputed that this spring supplied water to the cemetery and ran down the channel and connected up with the Tunnel Spring a considerable distance down the elevation, and also with the lower Nelson or Hull Spring.

Our statement as to the outcropping of the Woodside Shale was attacked as inaccurate by respondent with the statement that the Woodside "nowhere outcrops in Thaynes Canyon." This is just a ruse to fool someone. Of course, Thaynes Canyon slope proper is on the western slope of this mountain and we never contended that the Woodside did outcrop there. We call the court's attention to Ex. 61, which is respondent's

exhibit, showing the approximate depths of the formations from which the different springs arose. This exhibit shows that both the Nelson or Huff Springs and the Cemetery Spring arise out of the Woodside Shale. The testimony given at the following page of the transcript will further establish this fact, if any testimony is necessary. (Tr. 2514)

This exhibit and testimony on this point are not contradicted so far as we can find.

Respondent has no readings on this upper spring and no readings on the Nelson Tunnel Spring, both of which were unquestionably dried up.

The lack of readings may be due to the fact that the Spiro tunnel had progressed something more than half a mile in and naturally had passed beyond these springs at the time respondent's readings were commenced. The exact day on which they dried up is not indicated. Counsel made the statement on the argument that they had been dried up before this tunnel. He based his statement, as he said, upon the testimony of Mr. W. H. Nelson. Mr. Nelson, who had lived right near these springs all his life, was called by appellants as a witness. He testified (Tr. 1964 that a little water ran from the lower spring during the spring run-off, but not enough for irrigation, after the tunnel had gone in. Concerning the upper spring, he testified (Tr. 1965) that

it was six or seven hundred feet up the mountain. That prior to the tunnel the water was used to supply Glenwood Cemetery through a pipe line and also for irrigation and that they had a nice stream down from there for irrigation, and that since the tunnel had passed through there that not a drop of water (Tr. 1967) had flowed from that source either in high water or at any other time.

After the first testimony of this witness he was called back two or three times and in the meantime he, with Mr. Mills, Mr. McPolin, and others visited these springs and checked particularly on the Tunnel Spring, which was also dried up. The testimony of this witness (Tr. 2199) makes it perfectly clear that this Tunnel Spring was totally dry after the tunnel had passed through. At page 2200 he testified that when these men were all there, there was not a drop coming from this spring nor in the channel belowe the spring. On cross-examination (2203-2204) he testified that it had not flowed a crop since 1918. At 2206 the witness again testified to this spring as being a fine spring up until the time of the tunnel.

After some days the witness was called back again for further cross-examination (2513) and describes this upper spring, and the canyon aand testifies to the outcrop of the spring in the Woodside Shale (2514), and at

page 2516 he speaks of the driving of this small tunnel and the time during which the water had flowed out of it and that it never stopped until it was cut by the Spiro tunnel. Respondent in its brief tries to evade this very pertinent condition by simply stating that there was not evidence that they had cleaned out the tunnel. This testimony (Tr. 2516-17) shows that the little tunnel had been driven in there, that the water had flowed out of it for 20 years at least, and that it was entirely dried up. He was asked the question:

> "Q. You made no attempt to clean it out, or to see if you could develop more water there?
>
> A. Well, it ain't there any more; ain't no water; you could run a mile through there and wouldn't get it any more."

Now the testimony concerning the higher spring that furnished water to the cemetery, on which respondent made its statement to the court on argument that this spring had been dried up since 1905, is contained on pages 2518-19. This testimony relates purely to the settlement of the Glenwood Cemetery Association with the Nelsons over a filing and does not contradict his previous testimony as to the time the water in this spring was stopped.

Now the amount of water that flowed out of these

two springs, and it is significant that they were the two springs that were in the higher elevation, is not indicated clearly by any readings. In Book R. K. P. 4 of the State Engineer's office at page 5 there are two readings, one on Eliza Nelson ditch of .16 second feet, and one on Edward McLeod ditch of 1.05 second feet, both ditches being indicated on Ex. 49. I does not appear whether this purported to cover all the water or not. The State Engineer's readings very often appear on some ditches and omit others. However, there is included in the area reached by the ditches from these Nelson Springs on this exhibit of the State Engineer, about 29 acres of land as there indicated that was irrigated from these sources. Attention is called to this page of the State Engineer's record book. This is the only reference that we have found to the portion of the water conveyed through the pipe line from this upper spring to the Glenwood Cemetery. At page 5 of the book just referred to, in the margin there are two notes as follows: "At head of ditch this all the water in the channel at this point." This apparently refers to the reading of .16, and the channel is apparently the one coming down from the upper spring and indicates that the reading was taken at the head of the ditch, which would be at the lower end of the channel. Then the following note: "The pipe line to cemetery is using about .05 second feet." We have pointed to these readings

and to this additional testimony because of respondent's contention that there was some uncertainty about it, and not so much on account of the quantity of water involved as the certainty of this proof that this tunnel did draw down the waters that were sustained in this Woodside Shale. We now cite the transcript pages of other witnesses as to these two springs that were dried up. (Tr. 2282-2285, also 2383-2385).

There are other springs which the evidence shows were affected. The exact degree is somewhat uncertain, but this reduction in flow would of course enter into the approximate two second feet of outflow as indicated by Respondent's readings of August, 1927.

One of these is the Dorrity or Paulsen Spring, referred to and discussed in our main brief at page 53. The two small springs above the Sullivan Spring, indicated at the lower left hand corner on the State Engineer's map, Exhibit 49, as the Hidden and Craig Springs, were also springs which furnished irrigating water to lands above the Sullivan Spring prior to the tunnel. While this is strenuously denied by the Respondent, we think it is amply supported, and it is admitted and even recited by the opinion of the court that even in the month of June this water did not flow down after the tunnel. It will be noticed in the lower left hand corner of Exhibit 49 that the State Engineer indicates the springs, the ditches therefrom, and the lands irrigated. The lands marked in dotted

lines are cultivated lands, the lands above were pasture lands. The evidence is quite conclusive that these can not be irrigated after the tunnel. The evidence shows by the men that harvested the crops and did the irrigating the loss of this water through the tunnel. (In 2475-2478, also 2937-2940, also 2970-2975, See U. S. Geological Survey readings showing these flows before tunnel, Exhibits 22, 23, and 24.)

Coming now to Respondent's alleged reading of the Sullivan Spring of 2.39 second feet on August 31, 1927, which went into this total reading in order to arrive at the apparent two second feet of developed water, we are very certain that this is not a normal reading by any manner of means and is out of all line with the actual flow of the Sullivan Springs under ordinary conditions and outside of flood water or high water flow. By referring to Respondent's table at the close of its brief it will be seen that readings were taken by it on the Sullivan Springs in only three years and then in very limited portions of these years, to-wit: 1917, 1919 and 1927. It will be noticed that the June 9, 1917, reading included the period of high water flow. It is a reading of 24.30 second feet. We stated in our previous brief that this is apparently a high water flow and this is questioned by Respondents. We think that nobody will be fooled about this fact. If it were not a high water flow, then the reduction in the flow of this spring must be conceded. This reading was supposed to be taken through a notch in a foot board. This

amount of water in this canyon stream and at a place so steep that even the smallest flow was never brought to a level would be a torrent.

Doubt is thrown upon the accuracy of Mr. Blye's measurements, also by the testimony that the weir never brought the water to a level from which it could be measured but was on a grade where the water flowed freely and rapidly. (Tr. 2386-89.) Also by the fact that the U. S. Geological Survey made at least one reading which is just a day previous to Mr. Blye's reading of May 21, 1919 on the Haueter (Thiriot Spring) and in which there is a substantial variance from his reading.

We make this comparison because it also tends to show that Mr. Blye's readings of the Thiriot (Haueter) Spring, taken after this tunnel was projected, as we have always contended, are exaggerated or at least made too high by reason of including seepage waters. May 20, 1919, the U. S. Geological Survey reading of the Thiriot Spring (see Tr. 361) was 2. 67. Mr. Blye's reading (see table at close of brief) May 21, 1919, was 4.68. Here is a variance of two second feet from one day to the next. From this it appears to us that either Mr. Blye's reading of the Thiriot Spring after the tunnel are altogether too high or that the variance from day to day would be such as to render his readings valueless.

Coming back to the Sullivan Spring,

In 1919 in April he had a reading on this Sullivan Spring April 3, .94 second feet, and April 15, .91 second feet. These readings apparently approach the correct flow at that time and substantially agree with the general testimony of irrigators and others attempting to use this water as to the quantity.

It will be noticed from an observation of substantially all of the readings that were taken on any springs, and also from substantially all of the testimony that there is no substantial difference between the flow in any of the springs in April and in August. In other words, there is no substantial variance throughout the year except as affected by the high water or by rain storms or as the springs may be affected by inflows from other sources, by irrigation surrounding them or by direct inflow.

Of course the tunnel flow was not as great and the flow of the Sullivan Spring not so reduced in 1919 as in 1921 and later when the water became too low to supply Mr. Sutton's ice pond. The testimony as to this clearly indicates that the August, 1927, reading should have been substantially less than the reading of April, 1919, if accurately taken and unaffected by the rains which admittedly came at that time.

Any proper and normal reading August 31, 1917, should be less than the Respondent's own reading of April 15 of .91 second feet, if all the other testimony is to be considered, and should be no higher under Respondent's own general showing.

Referring now to page 8 from the back of Mr. Blye's loose leaf book, Ex. 53, it will be observed that in this case as in a number of other readings, Mr. Blye, in his original notes, noted the weather condition. On this reading he says, "Clear and cool. Rain yesterday." Likewise on the September reading on the next page, which is likewise entirely out of line with all the testimony as to this spring, he says, "Ground damp from rain last night, but no run-off." These are conditions which certainly affect this reading and likewise affect, therefore, the two second feet of possibly developed water into which these various uncertainties enter. We wonder why from 1919 on Respondent took only three readings, two of them admittedly in wet weather. This has not been satisfactorily explained. The Sullivans apparently told Respondent that they could take the readings if they would give the Sullivans copies. They did not take them. A great deal is said in Respondent's brief about the Sullivans not taking readings themselves, but Respondent's superintendent had admitted that the tunnel had cut the water, and the Company was furnishing to all these water users water from the tunnel to replace the spring water. Why should the appellants, prior to the bringing of this action by Respondents, therefore expect that they were going to take the position that they did take?

At pages 34 to 41 of our original brief we discuss somewhat the testimony as to the Sullivan Spring and point out that even taking this August reading of 1927

as being correct, when compared with the 1904 reading of the State Engineer of 4.40 second feet, there is a diminution shown of 2.1 second feet, approaching half. Even so we cannot accept this reading as approaching accuracy.

We now, as affecting this reading, desire to call the court's attention by reference to the transcript, that every witness who had ever used this water for irrigation purposes or had used the water for any purpose testified to the enormous loss of water from this spring. We believe that these witnesses take in about every one that had used this water for a period of from twenty to thirty and in some instances thirty-five years. We contend that this testimony shows that the average normal flow of this spring was diminished at least to the extent of a half to two-thirds. The testimony that only a part of this flow filled the Sutton ice pond prior to the tunnel and that they began having trouble as soon as the tunnel started to flow any substantial amount, and after the year 1921 when the tunnel began to draw down the heavy flows of water above it, that they had great difficulty, after collecting all the stream and nursing it in every way possible to attempt to fill their ice pond, and then cut the ice pond in two and after 1923 were totally unable to fill a part of it at all, thus giving up a profitable business which with little trouble gave as the lowest profit ever realized $600.00 a year, is very conclusive as to the effect of the tunnel upon this stream, and

cannot be said to be affected or disproved by the meager readings taken by Respondent. Without attempting to construe this testimony, we cite the court to it specifically as it will not take a great deal of time to read this portion of the testimony. (Tr. 2478-80, 2484-88, 2490-93, 2496-97, 2934-37, 2957-58, 2988, 3173-76, 1972-1985, 2209-2211, 2295-2298, 3165, 3168, 2143, 3565-66, 3607, 2541-42, 2731-33, 2746-47, 2750, 3617-18, 3626-27.)

Before closing this portion of the brief as to the total flows of the readings of 1904 being not all embraced within the Haueter and Sullivan Spring readings, it is necessary to call attention also to the Carey Spring, located down in the Sullivan field almost directly north from the Sullivan Spring as indicated on the State Engineer's map, Ex. 49. This spring is sometimes referred to as the Snyder Spring.

The U. S. Geological Survey reading on this spring June 25, 1916 (Exhibit 22) was .55 second feet.

The testimony is without substantial conflict that the water from this spring flowed down and irrigated a substantial portion of the Sullivan Ranch and also the Voight and Troutman properties. The State Engineer's map, Exhibit 49, clearly indicates this and shows the course of the ditches used for this irrigation. The testimony shows that after the tunnel was projected this water ceased to flow beyond the Sullivan property at all and was clearly reduced. This is the spring

that the Respondent's superintendent, Mr. Harry Lee, examined and stated that the tunnel was cutting the water (Tr. 2975-76) and it was after this that the Respondent agreed to furnish the Sullivans irrigating water from the tunnel in order to make up the deficit from the Sullivan and from this spring.

Respondent had no readings on the spring at all during the course of the trial. They then claimed that they made a reading of one-half second foot. This was while the land was being irrigated around the spring from the Sullivan Spring, however. They also claimed that by changing the course of the ditch and cutting the water into another ditch that had standing water in, they were able to make the water reach the highway. This, of course, was at a time when it was affected by the high water season, and the mere fact that the water would reach the road could give no comfort to the people who had irrigated substantial acreages north of the road from this water prior to the tunnel. We will content ourselves by saying that there is a substantial variance indicated here that would also enter into the difference in the readings of 1904 and 1927; and cite the court to pages of transcript supporting the statements that we have just made. (Tr. 2742-46, 2748, 2936, 2940, 2952-55, 2750-52, 2484, 2487.)

We now call the court's attention to the readings of the U. S. Geological Survey which have been re-

jected by Respondent in coming to its conclusions. They are in evidence and are not therefore to be rejected, although they do conflict with Respondent's conclusions.

Their Sullivan Spring readings are contained in Exhibits 22 and 23 and give the Sullivan Spring flow as 9.43 second feet May 16, 1917, and 9.42 second feet June 25, 1916. We do not contend that definite conclusions can be drawn from these alone as to normal flows because either of these readings may have been affected by the high water. It is obvious throughout this record that high water does not necessarily mean water flowing in from the surface, but that when the surface was saturated in these loose mountain materials the springs were affected. What we particularly desire to call the court's attention to in this connection, however, are the readings by the Geological Survey engineers on the Haueter Spring. These readings were contained in Exhibit 17, which exhibit does not now appear to be in the files. Possibly it was not at any time within the exhibits. However, the transcript gives these readings as read in by the engineer from the exhibit and we will give the page of the transcript in each instance. This is on the Thiriot (Haueter) Spring:

June 25, 1916 (Tr. 367).....11.8 second feet
May 16, 1917 (Tr. 367).....13.3 second feet
July 29, 1918 (Tr. 361)..... 3.07 second feet
May 20, 1919 (Tr. 361)..... 2.67 second feet

These readings, we think, are quite significant. Respondent refuses to include them or to consider them in arriving at the opinion given by its experts. Its reason, as stated by it, is that they were taken down near the highway. Respondent will not be able to produce to this court any evidence by any witness that after this tunnel went in any water flowed down to this point that did not come from the Thiriot Spring or from the tunnel except possibly a small flow from the Whistler Stream. The Nelson Springs or the Cemetery Springs, according to their own contentions, did not so flow at any time. The water that flowed from the irrigated lands to the east of the tunnel, if any flowed, was Thiriot spring water before the tunnel and tunnel water afterward because the ditch was taken out near the portal of the tunnel through the dump to irrigate these lands. There was certainly no water that flowed down this way from the Sullivan Spring. That was impossible. Any water that flowed into Thiriot Spring from the Whistler Stream was likewise supplemented by waters that were pumped from the tunnel up to this place, and Mr. Blye claims that he excluded these Whistler stream waters, and after their exclusion his readings of the Thiriot Spring, as we have before shown, substantially exceeded those of the Geological Survey.

But what we want to point out emphatically to the court is that as already indicated on Mr. Blye's notes contained on page 8 from the back of his black

book, Exhibit 53, his reading of the Thiriot Spring, which goes into the calculation that we are now considering, in 1927 says: "Concrete channel taken out and new road across ice pond. New wooden weir put in about 200 feet upstream."

Mr. Purton, the U. S. Engineer, testified (Tr. 369) that the Haueter Spring appeared to be a number of springs located near the portal of the Spiro tunnel, one about 20 to 50 feet east of the dump, the others along the creek channel near the east side of the dump. (Of course the dump back in 1916 to 1919 had not extended as far out as it did later.)

He then describes (Tr. 369) all the ditches carrying water from the Haueter land and just how the water was collected and says practically all the water in the ditches was returned to the creek and the total measured below the ice pond. This is the same ice pond referred to by Mr. Blye as being near the location of his measurements. At page 368 he says that Mr. Jordan, whose measurements are also included above, measured the combined ditches above and measured the spring down at the outlet by the road and that this would be the combined stream. He also says that the measurements were taken at approximately the same place. This ice pond, which indicates the location of both the Blye and the Geological Survey measurements, is near the highway indicated there, and as we have said above, certainly collected the waters of the

Thiriot Spring and also the seepages from the tunnel after the tunnel began to take the water out, and no substantial amount of water from any other source. This, by the way, is not the Sutton ice pond nor was this one used as an ice pond after the tunnel water came.

The joke of this is that Respondent rejects these readings because they may have included waters from the irrigated lands east of the portal of the tunnel as they say. Well, if they did, this would be tunnel water if it came from anywhere but the Thiriot Spring. This would inevitably make the U. S. Geological reading of May 20, 1919 (Tr. 361), of 2.67 second feet too high. But Blye's reading of May 21, 1919 was 4.68. If Respondent believes that the U. S. Geological Survey reading included seepage water not from the Thiriot Spring it should accept the reading, but say that it should be reduced by any such inflow, but what then becomes of Mr. Blye's reading taken on the next day, and which was 2.00 second feet more than the U. S. Geological Survey reading. It likewise should be reduced by the difference between it and the U. S. Geological Survey and also additionally reduced if any seepage water from any other source is claimed to be included in it.

We want to emphasize to the court also that these two readings were taken in the month of May. This is conceded by both parties to be a month of high water

flow. The tunnel also on May 21, 1919, was flowing 2.46 second feet, and, of course, this was the portion of the tunnel nearest to the Thiriot Spring.

It is interesting to note that prior to the tunnel, and at a time certainly after the peak of the high water, the State Engineer had readings on the Bates-Snyder & Dorrity Ditch alone, which is one ditch taken out of Spring Creek below the Thiriot Spring at a point shown near the center (Exhibit 49) of 8.12 second feet, on July 1, 1904. (See Book R. K. P. 1, page 3.) And another reading on this same ditch later at the same point in the season 1904 on August 18, of 4.02 second feet. (See Book R. K. P. 7, page 2.) We think that taking the U. S. Geological Survey of May, 1919, whether diminished by any seepage water or not, and considering that it was in the high water season, and comparing it with these July and August readings of the State Engineer, prior to the tunnel, at a time when 2.46 second feet was flowing out of the tunnel driven right over this Thiriot Spring, that these readings show quite a conclusive diminution in this Haueter Spring by the tunnel, and they also cast serious doubt upon the readings of Mr. Blye on this spring.

We also think it perfectly clear that these measurements by the U. S. Geological Survey should not only be considered but should be given great weight.

Before leaving these readings we call the court's

attention also to the fact that Mr. Blye was not an expert water man. He made no claim that we recall to prior experience in these matters. He got a formula for computing measurements and entered upon this work. He was employed by Respondents to procure evidence to support its contention that these were developed waters. Allowance should therefore be made for his partisanship regardless of what may be thought of his integrity. We feel that his attitude on the witness stand, and his attitude particularly in the later years of these measurements showed decided bias. On the other hand, the State Engineers were experienced, and the U. S. Geological Engineers were likewise experienced in this line of work. Their measurements were taken without any reference to this, or any litigation whatsoever. Moreover, Mr. Blye's readings, as indicated, stand alone, and as we have shown, in conflict with the readings of these other engineers, and most emphatically in conflict with the testimony of the users of this water.

If Respondent were allowed to cut off all seepage from the Haueter Spring so as to limit the irrigation of all the lands irrigated through the Bates-Snyder & Dorrity Ditch alone leaving out other lands which were previously irrigated through other ditches, only a small portion of these lands could be irrigated. The testimony of Mr. Mills that the percentage of seepage from a small stream is very much greater than from a larger one, and that a half second foot, considering the seep-

age and evaporation, will not nearly irrigate half as much land as a second foot, is logical and apparent, and in harmony with the experience of all irrigators. The flow and spread over the land is much more rapid with a larger stream.

As stated in our main brief, these users of water have always had ample, and their only purpose now and the only purpose that they could have in entering upon this expensive litigation is to retain ample water for their uses. It is not reasonable to think that these people are contending without cause.

Another important point in this connection is that after the tunnel, and after the observations of Respondent's witness, Mr. Lee, upon the Carey Spring, the Respondent itself recognized that the flow out of the Thaynes side was not sufficient to irrigate the lands previously irrigated from the Sullivan Spring and the sources there situated and allowed the Sullivans a substantial amount of water to be taken out through a pipe line westerly from near the portal of the tunnel on to lands that could be reached from this source. That they also pumped water up to supply the sources theretofore supplied from the Ferry Springs westwardly from the tunnel and immediately upon the tunnel flow becoming substantial took a ditch out eastwardly to irrigate the Respondent's lands indicated in that direction, and which had previously been irrigated (Plaintiff's Exhibit 49) from ditches from the

Thiriot Spring. There is no testimony that the supply from these springs on both sides was insufficient prior to the tunnel. There is, as stated, affirmative testimony that the supply was ample. This whole conduct, commenced early as the necessity arose, presents a practical solution from which conclusions as to the effect of this tunnel, adverse to Respondent's later contention, must be drawn. It is not explained in Respondent's brief. The statement is made that irrigators used the tunnel water and are now using it through the Bates-Snyder & Dorrity Ditch because it was more convenient to use this than the Thiriot Spring water. A look at plaintiff's Exhibit 49 (State Engineer's map) will show how absurd this explanation is. The tunnel flowed into Spring Creek before it passed under the highway in the natural channel of Thiriot Spring Creek, and the Bates-Snyder & Dorrity Ditch is taken out of Thiriot Spring Creek. How then could it be more convenient to turn the water of a tunnel out of this creek than it is to turn the water of Thiriot Spring out of the said creek?

CONCLUSIONS

We have now covered the three things which include the basic and fundamental facts, elements and considerations upon which our court in determining the questions of developed water have placed great weight, and which have been the determining factors in our Utah cases herinafter referred to, to-wit:

1. That the total flow from under this watershed by the springs before the tunnel, and the springs and the tunnel afterward, furnish an outflow of the precipitation upon the watershed available, all of which water must come from the watershed intercepted.

2. That the tunnel throughout its length and in all formations afforded free drainage of the waters from above and in the broad area of the tunnel as it progressed.

3. That the total flows from the tunnel and the springs after the tunnel was made checks so nearly with the total flow of the springs underneath this watershed prior to the tunnel as to indicate that there was no increased supply of water from the tunnel. Or in any event, it is not shown with any degree of certainty or at all, that there was any developed water.

RESPONDENT'S BRIEF

As already stated, it is not our purpose to take the time of the court here to go through and refer to each statement of the brief of Respondent with which we find ourselves in disagreement. Criticism is made of appellant's abstract and also of our brief. After having listened to all the testimony, and after a careful examination of the record, we attempted to prepare an abstract that would give the court the substance and the meaning of each witness' testimony to any facts

within an abstract of about 500 pages. We made an effort to reflect fairly the testimony of these witnesses. We admit that there may be slight errors and that we may possibly have been influenced to some extent as partisans in this case. That is probably inevitable, but we now believe, after another examination, that this abstract fairly reflects the record in this case.

Counsel criticizes us because we did not incorporate the testimony of Mr. Ullrich and some concluding arguments of Mr. Heitsman, and their brief says that these could have been submitted in place of their brief in this case. This is exactly the reason that we did not devote space in the abstract to these matters. Mr. Ullrich frankly said that he was basing his arguments and conclusions upon information furnished by Mr. Blye and Mr. Heitsman. These arguments could just as well have been made, as Respondent suggested, by counsel. He did not testify to facts and there was no reason for abstracting the arguments. This is true of the latter arguments of Mr. Heitsman also.

Our brief, while possibly not perfect, is as accurate as we could make it and the criticism of Respondent is entirely unjustified as we shall show by pointing to certain illustrations. We think that it presents the clearest picture that the court will be able to obtain from anything submitted in this case as to the actual fundamental conditions in this case.

No criticism seems to be made of our statements of

the law although counsel attempts again, as we shall show, in this case, to have it rested upon the dicta laid down in the Crescent Mining Co. vs. Silver King, and other cases, which has been repudiated. This dicta was used effectively in the trial court and a less though similar effort is made to use it here.

We point out to the court that there will be found throughout the brief of Respondent, both in the references to the law and in the arguments by counsel and in the theories advanced by Mr. Heitsman, a continual undercurrent of contention that unless these appellants here show that the Respondent intercepted a defined or known water course or courses that feed these springs, that Respondent is entitled to recover. This is apparent throughout Heitsman's testimony; that particular fissures would not penetrate to the surface at any particular place. In his theories about shales bending the only point is that the fissures would not continue straight through. Anybody knows, of course, that they do not bend like rubber but that if they are broken on one place it must be connected by sympathetic fracturing and displacements at other places in the shales. It is impossible to have a folding of a shale as he attempts to illustrate, and as he finally admitted, without the breaking up of other portions of the shale.

Page 54:

Respondent speaks here of the variation in the springs and says: "Speaking of the springs generally, their annual variation was irregular, rising in some years and falling in others, and that irregularity was apparent in the flow of the springs for years previous to the driving of plaintiff's tunnel, the obvious explanation of which Mr. Blye testified was that the flow of the springs was influenced by factors connected with precipitation in the Park City District." It is our contention that uncertainties arising out of such fluctuation must be construed against the contention of Respondent, who has the burden of showing by clear evidence here their claim of developed water and the extent thereof. This uncertainty cannot help Respondent.

Page 57:

Mr. Blye did state that he had an opinion that these springs were of shallow, gravity type. His testimony will show that he had nothing to base it on except that he saw the water coming up out of these springs. The springs had never been plumbed and nobody knows from what depths the different waters that make up the supply come from.

Page 104:

In contending that certain formations were impervious to water counsel argues at this and different

places that after the tunnel had gone forward and the flow of water been transferred substantially with the face of the tunnel, that they went back on certain raises and drifts above the tunnel and encountered no flows of water. Of course this is true. If the water had been released and given free flow back of this point and the tunnel had drained the immediate vicinity, there is no reason why water should be found in these workings. This is simply additional evidence of the free movement of water through these alleged impervious formations.

Page 126:

The conclusions that Respondent attempts to place upon Dr. Schneider's testimony have no value whatsoever, as a reading of this testimony will indicate. The doctor did not contend that water dropped vertically from the surface into this tunnel. Respondent, either wilfully or otherwise, fails to conceive our theory in this case and the theory of this court in this class of cases. It is not that water flowed down from the surface in definite streams through any particluar fissures and down through this watershed and up through the springs. The theory is that water is sustained in the watershed, as we shall show by quotations from the opinions of the court, and works its way out under the watershed throughout the irrigation season. Not necessarily down to any great depth, but by the water being held up the saturation is maintained to a certain

level, depending upon the quantity of water and the supply during the season. If there is a distinct fissure, to which Respondent seems to desire to make constant reference, and water is held up in this fissure to a certain level, other waters would not go down but may penetrate out through this fissure or may pass over for a time the point where the water is held up to, and if it has a lower outlet the water that escapes would be supplied from the surface watershed at a later time. This is a general condition in these watersheds. It is not a question of tracing a particular flow through a particular fissure to a particular spring.

Page 128:

Respondent in its claim that the Findings are supported makes a great number of citations, principally to the arguments of its experts based upon theory and speculation. As this court has already stated, as quoted in our original brief, in the Peterson Case, 262 Pac. 828, it is the province of experts to speculate and theorize but the court's findings must be based upon facts.

Page 152:

We will refer to a few of Respondent's criticisms of our brief for the purpose of showing the general character of the criticisms made and so that the court can see whose brief is the most dependable as to statement of fact.

We stated in our main brief that the case was tried over the period of high water and that experimentations that were made during the trial and the observations then by the court should take this into consideration. Respondent says the trial was commenced on Wednesday the 6th day of May and was submitted on Thursday August 7th, and that the high water season commenced the middle of May and ended about the middle of June, usually. The court will observe that in their arguments, however, they contend that the waters of July are affected by high water and even, when convenience requires, carry this into August.

The statement that they make as to the time that the case was submitted is correct. They do not tell the court, however, that the last testimony that was taken, was taken Friday July 20. (See Clerk's record at end of Judgment Roll.) So our alleged inaccurate statement is correct.

Page 153:

We made the statement, based in part upon Respondent's own exhibit (No. 61) that the Upper Nelson and the Nelson Tunnel Spring arose in the Woodside shale which outcropped on the east side of the mountain in which the tunnel was driven. Respondent refers to this as inaccurate and say the Woodside shale does not outcrop "in the Thaynes Canyon watershed." They also say at page 132 that the watershed with which we

are concerned comprises Thaynes Canyon and nothing else. This contention is false and we never made the statement that the Woodside shale did outcrop in Thaynes Canyon. Thaynes Canyon would not collect sufficient water, as we have already shown, to supply more than about a fourth of either the Haueter or Sullivan Springs prior to the tunnel, or the tunnel itself at the time of the trial. This is simply one of Respondent's fallacies.

Page 157:

We made the statement that water was encountered throughout the tunnel. That has been now shown conclusively. Respondent said, "Had the tunnel *intercepted channels* from the surface leading from the springs or surface water courses, the present flow would certainly exceed .2 of a second foot over the distance of two miles." This is a striking illustration of what Respondent thinks appellants are required to prove in this case. It is also an admission that the water was transferred with the progress of the tunnel. We have already quoted witness Blye's testimony to this effect although Respondent says he never so testified. Nor do we know of any measurement of .2 second feet in 2 miles of this tunnel.

Page 167:

Respondent makes a comparison of the alleged flow at point 2765 of the years 1917 with those of 1921-22 and 23. They do not tell the court, however, that

the precipitation in 1917 was 16.83, in 1922, 33.45, and in 1923, 33.50 inches of rainfall. In fact, throughout their brief they attempt to make comparisons and to lead the court to conclusions with relation to the various readings between years when the water available was practically double what it was in the earlier years with which they are making comparisons. These can be checked in a moment by reference to Exhibit 52 showing the precipitation. It is only necessary to take these precipitation records and go directly to Mr. Blye's notes in Exhibit 53 in order to detect the inaccuracy of the conclusions drawn by Respondent's experts.

Page 202:

On this page counsel purports to set forth readings of the Carey Spring. The reading of the U. S. Geological Survey is correct. They then refer to other readings by the State Engineer and for this information take readings from the R. K. P. books. They accused us of going out of the record in referring to these books.

The reading of September 1, 1904, is from Book R. K. P. 9. On the title page this spring is referred to as the "Ephraim Snyder Spring." On page 2 it is referred to at the bottom of the page as E. Snyder Spring under readings on E. Snyder Ditch. There is absolutely no evidence that this is the same spring as the Mrs. Carey Spring shown on Exhibit 49. These

books by the State Engineer contain readings in the White Pine and other watersheds at least down as far as Snyderville, seven miles below the area in question. We know of no "Ephraim Synder" ditch or spring in this vicinity. These readings in this book and the reading of August 17 in Book 6 at page 15, also refer to the E. Synder Spring, and the reading in Book 4, page 14, of August 3 and all these readings show that they were taken in connection with ditches in the vicinity of Snyderville and show no relation whatsoever to any readings in this territory. While these books do not refer to the Mrs. Carey Spring, the same books and the other books refer to the Mrs. Carey Ditches and in separte places in the books refer to the Ephraim Snyder streams, and in every instance the Ephraim Snyder readings are in association with readings entirely out of this territory. The effort to drag these readings into the controversy is clearly improper. We content ourselves with out citations hereinbefore as to the Carey Spring. We have no knowledge of it ever having been referred to as the Ephraim Snyder Spring, and this clearly is a different spring.

Page 206:

Counsel at this page claims that Mr. Sutton had not the right to use the water from the Sullivan Springs for ice making purposes, notwithstanding that he had used it since 1896 according to the uncontradicted testimony. A mere statement of this contention

is sufficient to indicate its absurdity. It is argued that there was water sufficient to fill the portion of the pond that remained after it was divided but that the pond leaked, and Respondent cites Mr. Blye's testimony showing that his readings indicate that there was sufficient water to fill it if it didn't leak. But the fact of course is that it did leak and that any pond in this character of soil would leak and it had always leaked, but it could nevertheless be promptly filled with the flow of water that existed before the tunnel. Respondent did not call the court's attention to the testimony of Mr. Blye, however, that he had made no personal observations of the Sutton ice pond (Tr. 3780-81). That when he made his estimates about filling it he assumed there would be no seepage; that he recognized of course that in any pond that was not cemented there would be a certain amount of seepage and that there would be less seepage after it had been used for 35 years than there would have been when it was newer, because the use tended to fill up the little openings with silt or fine particles washed in. This, of course, is common knowledge and simply emphasizes the deficiency of water in the Sullivan Spring after the tunnel.

Page 235:

Respondent makes the positive statement here that all inflows to the Haueter Spring were deducted from the outflow as read by Mr. Blye. We have already cited the court to Mr. Blye's notes on the 8th and 9th

pages from the back of his black book (Exhibit 53), showing that the single and only deduction was for the Whistler flow. We have shown from the testimony of both Respondent's and appellants' witnesses that the seepage into this spring could not be measured so as to make deductions. Respondent cites the court to one single instance on page 3 of this book, showing the place where they claim deductions were made. These appear to be in ink and not as a part of the original notes, and in any event, were made on April 27, 1917, when their table shows no flow from the tunnel whatsoever and there was very little dump through which the seepage could be had if there had been any flow. This does not meet our contention nor explain the situation at all.

Page 240:

Respondent sets up a lot of measurements for comparison with Mr. Mills' observations, entirely ignoring the fact that Mr. Blye never claimed that these measurements were made at the Haueter Spring nor on the flow in the spring at all. His notes show they were made on streams down near the ice pond and at different places below this spring and of course took in all the waters that reached this point from seepage or any other source. Mr. Mills' observations were directly in the spring area.

Page 263:

Respondent refers to Mr. Boutwell's professional paper on the geology of this area. It seems to be conceded that they did not put on a geologist to testify at all. They criticize Dr. Schneider and ignore the fact that Mr. Heitsman, who testified for them, was a student of Dr. Schneider at the Colorado School of Mines. Mr. Boutwell, who undoubtedly was a geologist, as the record conclusively shows was present assisting Respondent in the trial. He was not offered by Respondent and was of course not offered by appellants. Mr. Heitsman, however, in the beginning, as we have pointed out in our main brief, was willing to say that one of the documents that he had read in his study of geology in this territory about which he was testifying, was Mr. Boutwell's professional paper. We offered (Tr. 1736, 1771, 1774, 1777, 1791, 1793, 1794 to 1815) extracts from this document to test Mr. Heitsman's knowledge derived from this and other sources, and contend and still believe that these offers were proper. They clearly show a study of these formations and a statement deliberately and studiously made that the formations were very substantially fractured and that water was encountered in many shafts that they had sunk into the formations. We did not contend that they were offered as original testimony and it is upon this point that Respondent has offered authorities. The authorities, of course, state the rule in this respect.

A considerable portion of Respondent's brief is taken up in the discussion of some alleged attack by us upon Judge Ritchie. There is no basis for this in our position whatsoever. As explained upon the argument, Judge Ritchie became ill before our brief was submitted. As shown by the record (J. R. 164). just before his term of office expired a notice was served that Findings and Decree had been placed in the hands of Dr. A. J. Hosmer and Dr. J. Foster Curtis to be presented to Judge Ritchie if and when he should have recovered from his illness sufficiently to permit of his consideration of these matters. Respondent has gone outside of the record in its claims as to the time that Judge Ritchie became ill. These Findings and Decree were returned by the doctors, as Respondent knows, with the statement that Judge Ritchie would not be in condition to consider these matters at all.

It appears on the back of the Findings and Decree that were filed on January 5, 1929; the figure "5," however, clearly replaces the figure "7." The 7th was Monday, as we understand, on which Judge Ritchie's term expired, and the 5th was the preceding Saturday. The Findings consist of 46 pages and the Decree of seven pages. We make no criticism of Judge Ritchie on account of anything connected with this. It was common knowledge that he could neither speak nor write and his name is stamped upon these documents. All that we have ever said at any time is that we would appreciate under the circumstances the care-

fullest scrutiny possible of the record by this court. We said that this court has the power to review the facts in these cases and enter judgment. That has been reaffirmed by the court since in the case of Holmon vs. Christensen, 274, P. 457.

We did state that our reason for not urging our motion for a new trial or any claim that we may have based upon lack of notice of the Findings or the manner in which they were signed was not urged because the expense of a re-trial in the District Court on all these issues would be prohibitive as to the water users. Respondent has remarked that the State of Utah is not insolvent. This of course is true, but the State of Utah is only one of a number of interested parties and interested in only a portion of the ground and it refused to finance this fight for all the parties interested. While this matter is not of great importance we do not want to be put in any position of showing disrespect to Judge Ritchie, who heard the case. We do say, however, and this is important, with the greatest respect for the integrity of Judge Ritchie, that he was misled by the insistence of counsel upon the holdings of this court in certain cases, one of which involved water litigation in this vicinity, as being controlling of the law in this case. We concede that if these cases were controlling Respondent would be entitled to win, and it clearly appears from the opinion of Judge Ritchie that he applied the law as announced, at least

in dictum, in these earlier cases and particularly the case of Crescent Mining Co. vs. Silver King Mining Co., 17 Utah 444. This case, as we shall show, had construed and had quoted a prior decision of this court as holding that seepage waters belonged to the owners of the soil. The case was argued by the trial court. True the principles of law as laid down in the part quoted have been repudiated by this court in this character of cases. However, the decision, which also appears in the Judgment Roll at page 170 and bears the filing date of January 5, indicates a clear misconception and indicates that the trial court followed the Crescent vs. Silver King case.

At page 172 this opinion speaks of the trip of Judge Ritchie down Thaynes Canyon. He speaks of coming from Shadow Lake down the canyon to the Sullivan property. We quote:

> "My observation was from a point a short distance below Shadow Lake until not a great while before reaching the Sullivan property. The bed of the stream was perfectly dry on that day except for an occasional small stream coming in from one side or the other, usually from a spring, which, after running some little distance, would disappear. I remember riding for a long distance in a wagon either in the actual bed of the creek or close to it in plain sight of it, so that so far as my view went there was not at that time in that stream at the place indicated any body of water, and especially not any large body of water, which could account for the amount of water found in the tunnel."

This portion of the opinion clearly indicates the court's impression that it was necessary to find some stream or body of water which fed these springs and which had been diverted into the tunnel to make up the flow thereof. This is consistent with the theory that defined streams of water could not be intercepted, but is inconsistent with the doctrines of this court that seepage waters cannot be interfered with if they formerly contributed to appropriated uses. The statement itself indicates that the court did not appreciate the position taken by this court in the decided cases, which we shall cite again with some additions hereinafter, nor our theory as to the draining of this watershed of the waters heretofore appropriated and used.

Before leaving this we point out that the trial court's opinion (J. R. 172) also points out that the court visited the canyon on the 28th day of June. We point this out as support of our previous statement, which was questioned, that it was during the season affected by the high water that the court visited there, and yet, as stated by the court, no waters flowed down Thaynes Creek above the Sullivan property after the tunnel even at this period of the year, which is exactly our contention in this case. And, as we have previously pointed out, years prior there had been a water wheel turned by the flow in this stream and waters had been used this source at a points below the Hidden and Craig Springs for irrigation down until the time of driving of the tunnel. Of course so far as Shadow Lake

and in this connection Respondent appears to make some contention that the Sullivans had conveyed away the Sullivan Spring water and their other irrigation water by signing a document concerning the waters of Shadow Lake and the upper reaches of Thaynes Canyon. This contention is hardly worthy of notice, and especially so in view of the testimony that the Sullivan Springs and the flow from the Hidden and Craig Springs had been used on the Sullivan ranches both before and ever since the signing of this document.

In view of the fact also that it repeatedly appears in this case that when we raised the point of this water being contributory to the Weber River System through Silver Creek and through East Canyon Creek, as pointed out in our original brief, Respondent promptly asserted that it was only contending as to developed waters and made it plain in the early part of the trial and throughout that if they did not show that there were devoloped waters they would not claim the waters; and in view of the fact of course that it is undisputed that the outflow from this area contributed to the Weber River System and that it clearly appears in the case that the whole system was in course of adjudication, Respondent is definitely confined to waters that must be clearly developed waters and therefore not subject to the jurisdiction of the court in that adjudication or to the State at all. Otherwise they could only be acquired by appropriation. The single question is, therefore, as stated in the beginning wheth-

is concerned, that was a long way up the canyon; er Respondent has shown with the clearness required by this court that this water which was adjudicated to them is developed water which did not contribute to the supply of the appellants or to the Weber River or any system within the jurisdiction of the State of Utah.

THE LAW

Respondent's brief at pages 5 to 21 and again at pages 275 to 293, discusses the law. It was not a difficult matter to confuse the trial court and a great deal of confusion will result in the mind of anyone if an effort is made to reconcile all of the decisions of the various states upon the general questions here involved, or even to reconcile the language of the decisions of the Supreme Court of this state upon some phases of the law with relation to water rights. This has been conceded by the court itself in a number of opinions.

There is no confusion, however, if the decision of this case is based upon the other Utah cases involving the questions that are involved in this case. These are:

First, as to the priority of right of the appropriators and users in the water flowing from a watershed as against a person intercepting the seepage or other waters within the watershed that prior thereto contributed the supply to the water users.

Second, the question as to the burden of proof in such cases, which was answered in the Mountain Lake Case, 47 Utah 346 at 360, as follows:

> "The burden of proof is upon the one who has discovered certain subterranean waters and claiming the same, to show that such water is in fact 'developed water.' Therefore, whoever asserts that he is entitled to the exclusive use of water by reason of his having discovered and 'developed' the same must assure the court, by a preponderance of the evidence, that he is not intercepting the tributaries of the main stream or other body to the waters of which others are entitled."

The one fundamental question that for a time caused confusion was the question as to whether or not this State had adopted the old common law principle, that he who owned the surface of the ground owned all waters to the depths beneath.

This was finally settled in Horne, et. al., vs. Utah Oil Ref. Co., 59 Utah 279, 202 Pac. 815, 31 A. L. R. 883. In this case the court pointed out the tendency of our more recent decisions away from this old principle as not being just or applicable to our situation in this State and cited the decisions of this court and distinguished some cases which Respondent has cited here and announced its decision definitely against this old common law principle. We had assumed that that question was definitely settled and so cited no cases upon the point and shall take no time now arguing that this court has rejected the proposition quoted by

Respondent from Crescent Mining Co. vs. Silver King Mining Co., 17 Utah 444:

> "That water percolating through the soil is not, and cannot be, distinguished from the soil itself. The owner of the soil is entitled to the waters percolating through it, and such water is not subject to appropriation. The ordinary rules of law applying to the appropriation of surface streams do not apply to percolating water and subterranean streams with undefined and unknown courses and banks. When water percolates through and under the surface of the earth upon land belonging to one person and comes to the surface just before it empties itself upon the land of another, the owner of such land has no right to demand that such percolation shall continue."

This rule is positively not the rule of law governing the case at bar or any other case of a similar kind or classification. We have pointed out, however, the trend of Respondent's contentions on the facts and the law, and if it is the law, that unless we could identify streams or flows that had been intercepted and that otherwise would have supplied our springs and streams, then the decision would have to be against us. We have pointed out the decision of the trial court indicating his acceptance of this position taken by Respondent.

It is unnecessary to follow through the different decisions of this court criticizing this language, and limiting, and distinguishing the Crescent Mining Co. case and the case of Sullivan vs. Mining Co., 11 Utah 438, upon which the Crescent case was based; or the

case of Willow Creek Co. vs. Michaelson, 21 Utah 248, or the case of Roberts vs. Gribble, 43 Utah 411, and we might mention also the case of Garns vs. Rollins, 41 Utah 260. These earlier cases, particularly the Crescent case, contain a dictum which was admittedly consistent with the old common law rule above referred to and inconsistent with the rights of appropriators in seepage waters arising from the lands of other owners.

The Circuit Court of Appeals in the Snake Creek Tunnel Case, 271 Fed 157 at 163, discusses these cases and says that this court has in effect overruled Roberts vs. Gribble. We may say frankly that we think this conclusion is correct and it is just as certain that while these cases were discussed by this court in Stookey vs. Green, 178 Pac. 586 at 588-9, and it was there shown that the language used in these earlier cases and particularly in the Crescent case was not necessary to the decision, that it is perfectly clear that so far as the language quoted by Respondent is concerned, if it be applied to a case of the character now under consideration, this language has been totally repudiated and rejected by this court. And as stated by the Circuit Court of Appeals, while these cases tended to favor the old English rule, this rule has been definitely rejected by this court. This is probably sufficient to recall to the court the situation as to these old cases.

Respondent's brief, however, cites another line of cases including the Horne case, Cohen vs. La. Canada,

and even Katz vs. Walkinshaw, and other cases considered in the Horne case; but these have no place in the case at bar, once it be conceded that the old English rule has been rejected, because those cases were cited in the Horne case upon that point and upon that point alone. This court made that proposition emphatic in the case of Peterson vs. Wood, 262 Pac. 829, a case which is in point here, wherein this court pointed out that the line of cases just referred to and cited by Respondent do not bear directly upon the point involved.

It is of no use, therefore, to quote from these California cases which indicate simply that there was a contest between previous water users and others whom it was claimed had intercepted the supply of water. The La Canada case holds that they did not establish the fact that their supply of water had been intercepted. In that case, however, the case did not adopt the rule adopted in this State as to burden of proof. The situation is as indicated in the decision of Judge Johnson in the Snake Creek Tunnel case. The portions of his opinion quoted at pages 12 to 15 of our original brief show that his view of the testimony indicated that the testimony in that case was almost as unsatisfactory as it is in this case from the standpoint of the mining company, yet he ruled the case in favor of the mining company and against the water users upon the theory that the burden of proof was upon the water users to show that their water had

been intercepted. The Circuit Court, however, after some later decisions by our Supreme Court, found that this was not the situation as to the burden of proof, that the burden was upon the mining company, and reversed the case.

We think no further discussion of the cases cited by Respondent from other jurisdictions is necessary.

Respondent does concede here that it has the burden of proof. In fact, it did not contend in the lower court that it did not have the burden of proof. The law, however, that it cited to the trial court, as hereinbefore indicated, was embraced in language which was later held by this court to be dictum, but language such as is quoted here to show that this court had held that seepage waters belonged to the owners of the soil. If the law had been as Judge Ritchie conceived it to be, and as most attorneys and engineers conceived it and still conceive it to be, that the waters that are protected in the watersheds are only those which are in known and defined water courses, then the decision would have been right; but if the law is as we contend, that waters however held in the watershed are to be protected in favor of the users, then the decision is wrong.

The point is that it could not help the trial court to a right decision of the case to concede the burden of proof, if the substantive law to which the court applied this rule was misconceived. In other words, if

all the Respondent had to prove was that the waters from the tunnel were not from known and defined water courses intercepted within the tunnel, the matter of burden would make no difference. This would have been conceded. This was obviously in the trial court's mind, because the principle upon which he ruled the case is evidenced from the court's statement that the small streams which sunk along the creek bed in Upper Thaynes Canyon were not any of them such a stream or body of water as to supply the stream that flowed from the tunnel.

But if Respondent accepts the burden of proving by clear evidence that it has not intercepted any waters, seepage or otherwise, which, if sustained in this watershed would have contributed to the supply of the springs or streams here involved, or a water system within the jurisdiction of the State, then they will have brought themselves within the law as laid down in our decisions applicable to the proposition here involved. This they emphatically did not do in the trial court, and this they must but have failed to do here. Not until this is done have they proved that these waters are "developed."

We call the court's attention now to the cases that are directly to the point of law as above stated applicable to this case.

Mountain Lake Mining Co. vs. Midway Irr. Co., 47 Utah 346, 149 Pac. 929, is a case squarely in point

that has been quoted both in this brief and in our former brief. This case makes it very clear, as we view it, that developed waters are distinct and separate from waters which are or have been appropriated or used by any part of any irrigation system. The discussion of the court as to what matters are matters of common knowledge as to the flow and preservation of water to supply the water users must, we think, be accepted as matters of common knowledge in this case; because, if they are matters of common knowledge, and they are, they are matters of which this court will take judicial notice. We quote as follows:

> (367) "It is a matter of common knowledge that in this mountainous region the water which percolates into and through the porous soil of the mountains, especially in the higher altitudes, at some time and in some manner finds its way into the mountain streams. * * *"
> (360) "In such case it is immaterial whether the water, when encountered, is flowing in well-defined subterranean channels or is percolating through the soil, gravel, and the fissures and crevices of the rock. In either event, the presumption is, until overcome by satisfactory proof, that the water is tributary to the main stream, and the right to its use is vested in the prior appropriators of the stream."

It will be observed that the Mountain Lake case makes no reference whatsoever to the Crescent vs. Silver King. This quite apparently came from the fact that the attorneys and court took into consideration the distinguishing features of that case on its actual

facts. As pointed out later in Stookey vs. Green, it really had no application there just as it had no application here.

Rasmussen vs. Moroni Irr. Co., 189 Pac. 572, was another case in which this court expressed itself upon these questions of common knowledge and refused to follow the Crescent case, and upon the matter of conditions in our watersheds of this State, at page 576 says:

> "It must be remembered that in this mountainous country all streams are necessarily, to some extent at least, fed from underground sources as well as from surface sources. Indeed, the water which flows in the middle and lower reaches of our mountain streams from which the water is diverted for irrigation and domestic uses after the high water season is passed, and when we have arrived at what is called the low-water stage, nearly all reaches those streams through underground and invisible channels. The porous and gravelly nature of the soil of our mountains, foothills, and even the higher bench lands, tends to freely absorb the water that comes from the melting snows in the spring and thus seepage and percolating waters form a not inconsiderable part of the supply of all of our irrigating streams. When therefore all of the water is appropriated by a prior appropriator which flows in a given stream at some point some distance down said stream, such appropriator acquires a right to all of the sources of supply of such stream whether visible or invisible, or whether underneath or on the surface. The porous and gravelly condition of our mountains and higher bench lands, as well as the more elevated irrigated lands, thus retard

> the flow of the water into the mountain streams. By that means much water is conserved for irrigation and other uses for the latter part of the irrigation season, which, if it flowed directly into the streams as the spring sun melts the snows, would be entirely lost and wasted. These mountains and highlands thus act as natural reservoirs and in a measure accomplish what would be accomplished by artificial storage of water. The first appropriator on the stream, however, acquires a prior right to the use of all those waters, and no subsequent appropriator may interfere either directly or indirectly with the rights of the prior appropriator. If, however, the appellant may cut off one of the sources of supply of Sanpitch river any other land owner and water user may cut off another source of supply, and so on until all the sources of supply which pass underneath the surface of the soil are cut off, and thus the lower and prior appropriator would be left without any, or at least only a meager supply of water in the low water season. This may not legally be done."

The case of Peterson vs. Lund, 193 Pac. 1087, is of importance only for the discussion of the rule as to interference with seepage waters being applicable to these that supply springs. This court as page 1090 states the following upon this question:

> "There is no difference in the right of appropriation between springs and running streams, and the prior appropriator of the water of a spring will be as much protected as the appropriator of the water of a stream.
>
> In McClellan vs. Hurdle, 3 Colo. App. 430, 33 Pac. 280, the law respecting the right of appropriation is very aptly stated in the following words:

> 'It is probably safe to say it is a matter of no moment whether water reaches a certain point by percolation through the soil, by a subterranean channel, or by an obvious surface channel. If by any of these natural methods it reaches the point, and is there appropriated in accordance with law, the appropriator has a property in it which cannot be divested by the wrongful diversion of another, nor can there by any substantial diminution. To hold otherwise would be to concede to superior owners of land the right to all sources of supply that go to create a stream, regardless of the rights of those who previously acquired the right to the use of the water from the stream below.' "

This brings us to the line of decisions in the case of Midway Irr. Co. vs. Snake Creek Mining & Tunnel Co.

The first decision, of course, was in the District Court. In 271 Fed. at page 157 the decision of the Circuit Court reverses the District Court. This decision, at page 161 near the top, discusses the reason for compelling the mining company here and other persons similarly situated in this class of cases to assume the burden. The opinion reviews our decisions and comes to the conclusion hereinabove stated, that seepage and percolating waters are within the rule as well as those in known and defined courses, and at page 164 quotes a statement from Kinney, Irrigation and Water Courses, Sections 1193 and 1194, showing the basis for the change in attitude by the courts upon this question and the reason for the rejection of the common law rule. This statement is worth quoting here

as it bears out the previous statements of this court as to what matters are matters of common knowledge in these watersheds:

> "It was not until the more recent scientific investigations, before mentioned, as to the movements of underground waters through the soil, that these percolating waters tributary to surface waters were recognized as belonging to any particular class, or that any rights could be acquired in them other than the rights which could be acquired to the soil itself, through which they found their way, of which soil, under the prevailing common law rule, they were considered component parts. But, by these geological and topographical investigations made by the government and others, it has been proven in many instances that waters percolating through the soil of watersheds were not only the sources of supply, but the only source of supply of certain streams and other surface bodies of water."

On writ of certiorari this case then went to the Supreme Court of the United States and the decision there is found in 260 U. S. 596, 67 Law Ed. 423. This opinion at page 425 recites the contention of the mining company there, which was the contention of the mining company here in the trial court, that Utah had adopted and was applying the common law rule as announced in the Crescent Mining Co. vs. Silver King, and then reviews our decisions determining that that was not the state of the law in Utah, at least at the time of the Supreme Court decision. It also points out that the case just above referred to and cited by Respondent did not really pass upon this point although there was

language, as quoted here, which would indicate that it did. The Supreme Court sustained the Circuit Court's decision.

The latest case that we have found that is squarely in point, decided after the Snake Creek Tunnel case, is Peterson vs. Wood, 262 Pac. 828. At page 831, second column, this court again repeats the rule as to the burden of proof and upon the question of substantive law at page 833 points out that the trial court found that in the tunnel there involved there was an actual stream of water intercepted. In other words, that court also appeared to hold to the rule that to sustain the contention of the water users it was necessary to be able to find from the facts adduced that a known or defined course had been intercepted. This finding was attacked by the appellants as being unsupported.

This court, however, after citing the decisions hereinabove cited from the Supreme Court of this State, said:

> "It is wholly immaterial whether the water of Wood Spring is percolating water, as that term is known as the common law, or whether it is the water of a subterranean stream. We believe that the cases to which we have referred have settled that question once and for all in cases of this nature and settled it right."

We cited also in our main brief the decision in the case of Little Cottonwood Water Co. vs. Wasatch Mines Co., a District Court case, known as No. 27087. Coun-

sel complained that copies of this opinion had not been supplied at the time that it wrote this part of its brief. This was called to our attention and copies were afterwards supplied both to Respondent and to the court. We cited this case, not because we thought it was controlling upon this court, but because it recited facts which bear a resemblance to the facts here involved and because it contained a review of the decisions that we have cited, except the later decisions, and came to the correct conclusion as to the state of the law in this jurisdiction. The decision was at least considered by the litigants so sound that no appeal was taken from it. It indicates strikingly how the approach to this question from the standpoint of the correct rule of substantive law leads to a different conclusion from that arrived at by the trial court in this case, where the wrong rule of substantive law was applied. In other words, the trial court in that case followed the line of cases that we have just cited and the trial judge in this case followed the Crescent Mining Co. vs. Silver King and other cases of that character, the language of which clearly indicated the adoption of the old common law rule. We stated that this opinion adopted the theory that we are contending for here and adopted the evidence of the water users' experts as to the nature of the watersheds and the action of the water in the watersheds with reference to these seepage waters, and that the court, following these experts, arrived at the conclusion that these waters were

held up in that watershed so as to feed the streams underneath the same. The position taken by these experts in that case is merely a restatement of the matters of common knowledge as recited by this court in the opinions given, which conclusions have been arrived at as a matter of scientific investigation as shown in the portion of the statement quoted from the decision of the Circuit Court of Appeals hereinabove. At page 278 of its brief Respondent, after attempting to criticize our statement as to the holding in this case, sets up a plat and by comparison attempts to show the difference in the location of the formations. It is apparent to us that the contention in the other case by the mining company was much sounder than the one here, because if water were held back by the porphyry dyke there was some possibility that it could not get down to the watershed. The effect of the holding of this court, however, is that water would be sustained in this watershed and if it had no outlet would be held up to a sufficient level so that it could seep through the loose detrital material and find its way underground to these streams. Our contention as to water being sustained in these watersheds is so obviously true and must be true in order for the processes of this character of storage to be carried out, that this court has had no difficulty in appreciating the situation. We attach no importance to Mr. Blye's comparisons, except that they do indicate that if the positions of the formations were, as he contends, in the Wasatch Tun-

nel case, then the formations dipping right down to these springs in our case indicate that the likelihood of this tunnel draining the source of supply of these springs would be much greater here.

It is the failure to appreciate the conditions and the failure to apply the correct rule of substantive law that has resulted in the decision in this case from which this appeal is taken. We respectfully submit that the rule of law applied was not the correct rule; that the Findings are not supported as required by the decisions of this court, and that the judgment should be reversed and a judgment entered herein that the Respondent has not sustained the burden of proof that the waters from its tunnel, or any definite portion of said waters, are "developed waters," which is the point at issue in the case.

Respectfully submitted,

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